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14. ABSTRACT Objective: The purpose of this study was to gain better understanding of the illness behaviors of military women who were deployed or recently deployed. Design: An ethnographic study design was selected to understand how military women managed GU symptoms during deployment. Setting: The deployed experiences were recalled from various locations around the world. Participants: The final sample consisted of 43 military women from the US Army, Air Force, and Navy who were either deployed or had been deployed within the past year. Methods: Audio recorded interviews ranged from 30 to 75 minutes in length. Semi-structured interviews were used to gather women's stories about their illness behaviors in the deployed setting. Formal interviews, informal interviews and field notes were included in the data analysis. Results: Three themes were identified. 1. <u>Life in the Deployed Setting</u> described the location women were referring when they experienced GU symptoms. 2. <u>The Dynamics of Trust</u> described individuals or entities that were trusted sources of information, supplies, or support. 3. <u>The Sphere of Control</u> described the activities utilized to maintain health or manage GU symptoms. Conclusion: This study is significant to nursing research because it exposes the influence of culture on GU symptom management. Recommendations from this investigation include: (1) a need for better incremental, pre deployment and in theater education for women and medics; (2) informing leaders about the need to ensure the supply of self-care treatments and women's feminine hygiene products are available; and (3) promoting the role of family support stateside as a resource for information, supplies, and emotional support. Implications for Military Nursing: Though as health care professionals we pride ourselves on patient education, however, the social dynamics of the deployed setting severely influences military women's individual self-care and health seeking decision-making.					
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Abstract

Objective: The purpose of this study was to gain better understanding of the illness behaviors of military women who were deployed or recently deployed.

Design: An ethnographic study design was selected to understand how military women managed GU symptoms during deployment.

Setting: The deployed experiences were recalled from various locations around the world.

Participants: The final sample consisted of 43 military women from the US Army, Air Force, and Navy who were either deployed or had been deployed within the past year.

Methods: Audio recorded interviews ranged from 30 to 75 minutes in length. Semi-structured interviews were used to gather women's stories about their illness behaviors in the deployed setting. Formal interviews, informal interviews and field notes were included in the data analysis.

Results: Three themes were identified. 1. Life in the Deployed Setting described the location women were referring when they experienced GU symptoms. 2. The Dynamics of Trust described individuals or entities that were trusted sources of information, supplies, or support. 3. The Sphere of Control described the activities utilized to maintain health or manage GU symptoms.

Conclusion: This study is significant to nursing research because it exposes the influence of culture on GU symptom management. Recommendations from this investigation include: (1) a need for better incremental, pre deployment and in theater education for women and medics; (2) informing leaders about the need to ensure the supply of self-care treatments and women's feminine hygiene products are available; and (3) promoting the role of family support stateside as a resource for information, supplies, and emotional support.

Implications for Military Nursing: Though as health care professionals we pride ourselves on patient education, however, the social dynamics of the deployed setting severely influences military women's individual self-care and health seeking decision-making.

TSNRP Research Priorities that Study or Project Addresses**Primary Priority**

Force Health Protection:	☒ Fit and ready force ☐ Deploy with and care for the warrior ☐ Care for all entrusted to our care
Nursing Competencies and Practice:	☐ Patient outcomes ☐ Quality and safety ☐ Translate research into practice/evidence-based practice ☐ Clinical excellence ☐ Knowledge management ☐ Education and training
Leadership, Ethics, and Mentoring:	☐ Health policy ☐ Recruitment and retention ☐ Preparing tomorrow's leaders ☐ Care of the caregiver
Other:	☐

Progress Towards Achievement of Specific Aims of the Study or Project

Findings related to each specific aim, research or study questions, and/or hypothesis:

The purpose of this study was to gain better understanding of the illness behaviors of military women who were deployed or recently deployed. The study aims were met. The findings of the study were described in the three themes. The three themes described the cultural impact of illness behaviors in the deployed setting: 1.) Life in Deployed Settings; 2.) Dynamics of Trust; 3.) Sphere of Control.

Aim 1: Describe patterns, practices, and experiences of illness behaviors for deployed (or recently deployed) military women that experienced genitourinary (GU) symptoms.

Illness behavior is the perception of bodily changes and interpretation of the symptoms as illness or variations of wellness (Mechanic, 1986; McHugh & Vallis, 1986). Additionally, illness behavior involves seeking advice and validation from others that can lead to either self-care or professional treatments (Sakalys, 1997). This definition emphasizes that illness behavior occurs within a cultural context and includes the unique dimension of consulting others for symptom validation, which is particularly necessary when studying military populations, because the military has been described as its own culture (Nelson & Hagedorn, 1997).

Women described in detail the patterns, practices, and experiences of their illness behaviors when managing their GU symptoms. Women's illness behaviors during deployment is embedded within the findings section of this report that describes the three themes listed after the Aims results of this report.

Aim 2: Describe patterns, practices, and experiences of deployed (or recently deployed) military women when seeking health care information in the deployed setting regarding their GU symptoms.

Health information seeking was a topic that fit within the “Dynamics of Trust” and “Sphere of Control” theme. Health information was an interesting concept to explore within the interviews. Overall, women did not trust medical providers for health care or information. They trusted information provided by their deployed friend/colleague, family back home, or searched for answers on the internet. Most of the women expressed discontent with the medical providers as sources of information. One woman described a positive reception of health messages from her female health care provider that posted health messages in the women’s bathrooms at the forward operating base (FOB). She felt this proactive stance made this health care provider more approachable to women who lived at the FOB. Overall, women felt unprepared for managing their GU symptoms while deployed because they were not informed about the deployed environment as it related to managing their GU health. They expressed recommendations for more appropriate pre-deployment education about women’s health.

Aim 3: Compare and contrast the patterns of military women’s illness behaviors when managing GU symptoms in the deployed verses the home setting.

Women described the hindrances for managing their symptoms that are not experienced at the home setting. Women expressed different illness behaviors as compared to their home setting. As Wu (1973) described the responses to bodily symptoms may cause an individual to engage in one or more of the following actions: 1.) take action to relieve the symptoms, 2.) take no action, 3.) remain in a state of flux in which [s]he vacillates between taking and not taking action, or 4.) take counteraction in opposition to the cues (p. 137). An interesting finding was that women

believed their symptom(s) was the result of living in this environment. They believed the exposures to anti-malarial prophylactic antibiotics, inability to empty bladder when needed, prolonged use of feminine products, uniforms that trapped heat and poor laundry cleansing (to name a few of the problems mentioned) put them at risk for increased infections.

Without a doubt, the deployed culture influenced their decision to purchase supplies in the local PX or going to seek medical care because others would talk about them. Further, the distances needed to travel to seek medical care was a hindrance. It was assumed by the researchers that if women talked about the distance needed to travel, but decided not to travel that distance, she decided her symptoms required medical attention. However, she decided not to pursue medical care because of the barriers mentioned.

Study Findings

The description of each of the three themes that describe illness behaviors of military women who managed GU symptoms while deployed is listed below along with specific quotes after each theme section.

Life in the Deployed Setting

The deployed theater was dynamic and evolved daily. In order to understand and appreciate life in the deployed setting, most of the participants needed to describe the setting (Table 1). This dialogue allowed the researchers to analyze the data against the backdrop of this descriptive canvas. Military leaders sent women into theater either with a large group or as an individual member to augment a group that was already in the deployed setting. Depending on their mission and the maturity of the location, these participants lived in tents, permanent structures, or ships. Women described physical hindrances, but also the social issues that effected their management of symptoms. Women portrayed the impact of separation from their usual

home surroundings and support systems to report to a foreign location with a demanding work schedule had on their symptom management.

Physical hindrances

Military members living in a deployed setting experienced an unlimited number of influences that was outside of their control that influenced their management of health. Women in this study specifically commented on uniforms, laundry, supply availability, toilet facilities, showers, and local weather as key factors that contributed to their symptoms or hampered their ability to manage their symptoms. In the deployed setting military members walked everywhere, which could add up to several miles a day. Military members were required to be in uniform at all times, and they were concerned about the heat and moisture trapping when wearing their uniform. It was believed that wearing the uniform constantly contributed to their skin irritation and vaginal candidiasis. Further, depending on the threat level, additional gear (i.e. carrying weapons, bulletproof equipment, and chemical protection gear) was required for safety, which added to their physical discomfort.

The military contracted laundry service through the indigenous local population and many women believed their laundry was not properly cleaned because it was washed with recycled water, though not confirmed. Further, they believed the service did not use enough soap. Due to the perceived poor laundry service, the aforementioned factors contributed to their recurring vaginal symptoms.

Local shopping was limited to the military store, known as the Post Exchange (PX). The PX stocked hygiene supplies; however, the size of the PX varied from a tractor-trailer to a small corner drug store. Furthermore, the PX stock inventory frequently experienced irregular shipments resulting in limited personal supplies and limited brand name products. A non-

commissioned officer (NCO) reported she received inaccurate information about the availability of self-care and hygiene items prior to deployment; which resulted in her not being as prepared, as she should have been.

The shower and toilet facilities were typically in two separate locations, and the cleanliness varied depending on location. These trailers provided small toilet stalls that ran out of toilet paper or some other women would leave the area messy. Many times women chose a certain toilet facility or used a portable toilet because it was closer or cleaner. The showers were crowded, small, dirty, or moldy. For women serving on ships, the female bathrooms were located several decks below their duty location. In the smaller bases, shower and toilet facilities were shared between women and men. As the deployment continued, sharing bathrooms with men was tolerated and a cardboard sign dangled by string indicated the gender of the person in the bathroom.

When away from the base camp, urination was an interesting challenge. Women reported dehydrating themselves to reduce the need to urinate. Health care personnel and military women believed that urinary symptoms (urgency, frequency, and incontinence) were common in deployment. Many women suffered with urinary leakage and urgency accepting these symptoms as “normal” in deployment. Without treatment, unrelenting symptoms eventually would become an obsession and most often lead to seeking medical treatment. A deployed gynecologist reported that nulliparous women reported the onset of urinary incontinence during deployment, which is uncommon for this age group of women.

Leaders ordered all military members deployed to malaria-infested areas to take prophylactic antibiotics. However, women expressed concern that the antibiotics caused their vaginal symptoms and stopped taking the medication for symptom relief, which put her at risk

for disciplinary actions. One nurse practitioner was convinced the use of the antibiotics was the source of repeated vaginal infections in her patients.

Social Issues

In the deployed setting, you were never alone. Trust was tested by the loss of anonymity. People saw what you were doing, where you were going since the size of the base or ship was small, and everyone lived in close quarters. Women believed that friendships were positive and helpful during deployment; however, life in theater was limited without much else to do but work and gossip. A soldier stated, “We’re women and we do gossip and we do talk”. Therefore, what might not normally be discussed often became gossip in the deployed setting.

If a woman did not tell others the reason for seeking health treatment, this “nosey neighbor” assumed many reasons, which was typically a socially taboo reason such as a sexually transmitted infection or pregnancy. In the deployed setting, perception became reality. Even buying feminine products lead others to assume that she would be in a “bad mood” assuming that she had premenstrual syndrome. Promiscuity was always assumed and talked about by others, if sexually active or not. A twice deployed NCO stated she waited for care until she went home, “Because of the simple fact I did not want it to be around that I had something and be embarrassed and have everybody know me not as Sergeant [name removed], but as a girl who had an STD down range”. One woman chose not to leave the theater for higher level of health care in Germany as advised by her health care provider because people would talk. She suffered in silence and lamented that GU symptoms made you feel less than a woman. A twice-deployed soldier stated deployed women were less concerned about contracting a sexually transmitted infection than becoming pregnant. Women who become pregnant in the theater were

immediately sent home and could receive disciplinary action. Others gossiped about women who purchased or picked up condoms from the clinic.

Senior enlisted and officer women reported feeling isolated because of their rank, position and upgraded living quarters. Senior enlisted and officers were selective in who they befriended because of the perception of favoritism. Several senior enlisted were concerned for younger military women because of their lack of health literacy and their risky sexual behavior, which might jeopardize their health, the mission, and the advancement of women in the military.

Job Requirements

The mission came first. Working 12 to 16 hour days for six to seven days a week was not uncommon. Women learned to prepare ahead of time, especially for menstrual management. At times, women learned to improvise with their menses using toilet tissue to manage menstruation. One woman reported that her job was so demanding, and often no portable toilet was convenient resulting in her using the same tampon for 8 to 12 hours between changes. This fast paced and demanding environment required women to ask permission to seek medical care or to leave to buy self-care supplies. An officer reported that she was so uncomfortable with vaginal pruritis, that she found it difficult to concentrate during the multiple required briefings throughout the day in which she was expected to contribute information.

Senior ranking military women described more control over their environment. The idea of “rank has its privileges” was still applicable. Further, women with higher rank typically described more freedom to seek health care without explaining their symptoms to their leadership. In contrast, women in non-leadership positions chose to ask permission to seek medical care when supportive co-workers and leaders were working that day. As one woman

stated, “Cause there was certain people that would let you do things. And certain people that you know [would say] ‘suck it up’”.

Table 1: Living in the Deployed Setting

Domain	Supporting Quotes
Physical Hindrances	– When you are walking around and you feel like you are in a swamp inside your uniform! . . . Cause...you sweat...throughout the day...” – “When I first got there, I didn’t know they didn’t use soap when they washed our clothes.” – “You had to turn [the laundry] in and the men who ran the washing place were men! It was all men. And they go through your stuff to make sure, cause they have to count out how many pairs of underwear you’re turning in.” – “And with restrooms, we did not have no idea that it would be that dirty...the restrooms is like very filthy.” – “[The guys] pee in bottles in their room. Empty ‘em out in the morning. And girls, we can’t do anything like that. We’re too clean...we would just hold it”. – “[The mail] didn’t come in as regularly. . . I don’t get [care packages] regularly, as far as they might send a package out for you, you might get it 1 or 2 weeks later or you could get it 3 months later. Just depends on where you’re stopping.” – “We had a shoppette [small store] but, uh, it really only stocked basic things. It was very small. It just stocked the basic things like baby wipes and allergy medications. It sold like tampons and things like that. It didn’t sell any types of yeast infection creams or things like that. It was usually out of tampons. You had to be there when it came in to get that.”
Social Issues	– “There’s really not much privacy at all. You know of get used to that. So that’s kind of like negative. I mean you have, if you need to use the restroom, you have a little stall. And if you need to use the shower, you have a little stall...., so I guess, I don’t know if that would have a huge impact on our health, but um, I think probably, especially for first time deployers...the younger girls, it’d probably be an issue for them. If it’s um, being uncomfortable. I would assume, you know, being around so many people”. – “It was like a boys club. And it was cool. They treated me like one of the guys and stuff.”

- “There are definitely issues, officer-enlisted issues, but the enlisted kind of stayed together for the most part and it was of almost like a motherly thing with the two younger soldiers, but that was not a problem.”
- “I really didn’t talk to anybody. Because there wasn’t, they didn’t say, “Hey if you have a female issue you go here.” . . . The base was predominately male so you have a small fraction of females there”.
- “And you see girls get passed around [for sex] a lot out there and the guys would talk about that stuff.”

Job Requirements

- “You have to have the 1st sergeant sign off on it. It’s just very simple. . . And if it is a girl problem, it was you know, ugh. You know they don’t know how to handle it. They’re very, they get very uncomfortable with it. But yet they still want to know.”
 - “Finally I begged my command to take a 9 to 6 hour rest. Heh! Rest.”
 - “The chief there. . .He’d say you have worked 100 days straight, you’re taking a day off. Don’t come in here.”
-

Dynamics of Trust

Trust was multifaceted and rippled from trust in self to expanding this trust to co-workers, family, and leadership (Table 2). Participants considered GU symptoms as a private matter but, trust with others was based on the willingness to allow others to understand and assist with their private health concerns.

Trust in self

Trust in oneself provided a level of comfort to evaluate the symptoms and develop a self-diagnosis. Based on their self-diagnosis, women used a trial and error with self-care treatments depending on the supplies available to them. For example, one woman commented that she would eat yogurt if she felt like she had a yeast infection or drink cranberry juice for urinary tract infections. For others waiting was their way of managing their symptoms. An officer stated she

waited to seek health care for her urinary symptoms when she returned home on leave because she did not believe the symptoms were a serious health concern.

Women's past experiences with GU symptoms definitely influenced women's sense of control. Women who had experienced symptoms felt more informed regarding their ability to control their symptoms. The age of the woman appeared to be a factor in trusting in her judgment, which may be related to more lifetime experience with managing symptoms. Unknown symptoms felt unsettling without past experience for comparison. As one woman reported, "I'd never had a vaginal yeast infection or anything of that nature in the past so I wasn't really sure...what was going on". However, another woman stated if similar symptoms appeared in the future, she now knew to seek care sooner.

Trust in others

When women were unsure of the meaning of their symptoms, they usually sought advice from experienced or knowledgeable women whom they trusted. Once a trusted friend was found, she was a great source of support and often a resource of supplies and information. Women reported that they shared their personal supply of extra vaginal antifungal creams, feminine hygiene products, and discussed other treatments for private GU health concerns. Having support of others as a resource decreased these women's need for medical care, which was particularly important for inexperienced women in the military. Talking with others also seemed to put their symptoms into perspective. One woman stated, "after...talking to friends, I just assumed [the GU symptom] was a common deployment thing and I just didn't pursue [treating] it".

Women trusted that others would not talk about their health concerns or mention they saw her go to the clinic. A twice-deployed soldier reported that military woman acted like

“friendly enemies”. One woman described it as the “wait and see” time. Many women living in the same setting (i.e. tent or dorm room) influenced the communication of the trust either positively or negatively. Getting along was advice that was shared to help survive the deployment and look at these women as your deployed family. “It is essential because we are all away from our loved ones and our normal life and this group you are with now is your family, is your friends. Not just your co-workers, your everything. You know as far as your family, friends, until you get home”. An officer agreed, “Definitely find a buddy, someone you can trust”. Some topics were not shared with roommates or other females. An officer reflected, “Because it is a touchy subject when you talk about the female genital area. That’s, there’s just that weird look that you get from other people. And I didn’t, [my friend] helped me get through it because she’s my closest friend. It’s very painful, that’s a really painful problem”.

A harmonious work environment was a source of peace, which led to trust of others as a source of information. An enlisted woman described this peaceful surrounding amidst a chaotic warzone that helped her open up to her co-worker and ask health questions. She shared, “...we just kind of stuck together and like gave each other inspirational quotes and stuff. We weren’t nosey at all. There was no drama and it was great.” Another junior enlisted woman found it difficult to trust others in her work setting and in the living quarters, so she sought out the female sergeant in charge of the sexual harassment protection program because she believed that the position required confidentiality.

Trust in family

Women reached out to a family member to seek health information and resoundingly affirmed they trusted this information more than the information from military health care providers. Family members (i.e. mothers, sisters, husbands) were seen as information providers

and they often sent supplies. For instance, one mother diagnosed what appeared to be a yeast infection and told her daughter how to treat it. Another mother advised her daughter not to routinely wear panty liners and change underwear often. The mother reinforced this advice by regularly sending her boxes of underwear to stay clean. Additionally, another woman consulted her nurse practitioner sister about her symptoms who then gave her health care advice over the phone. Two women relied on their mother or sister to send vaginal creams or feminine products because the PX did not supply it. “Your family back home is the biggest thing here. And I don’t think they realize that, but they really are like a biggest help. Because you can’t go through those things you can’t really ask a female around here cause you ask a female, they’re gonna look at you funny like what’s going on with you. So you depend on your family”.

Trust in health care providers

Women considered multiple factors when seeking health care for their GU symptoms. Gender of the provider was considered when choosing to seek care in the deployed setting, but not at the home station. When deployed, women worried about care from male providers since there was a loss of anonymity in the deployed environment. Following a pelvic exam, the sight of the provider around camp or ship made the women uncomfortable and they felt the provider was uncomfortable as well. A sailor stated, “When you’re on ship and I can imagine at the same place in a camp, everybody’s together. So WOW! You just did a vaginal exam on me and you’re at dinner with me?” More importantly than the gender of the provider, women were concerned about the provider’s lack of experience, awkwardness, or unwillingness to conduct a pelvic examination. Women believed that the male providers “don’t feel comfortable with female soldiers either”.

First and foremost, in a location where anonymity was not presumed, confidentiality was expected. However, women doubted their health information was kept private by the medics because of the small community. The theater clinics were a tent or a plywood hut without soundproof walls. Privacy was jeopardized due to the inability to talk to the medic because many people shared an office, examination rooms were next to the waiting area where others could hear, or medical records not secure.

When they chose to seek health care, women wanted their issues taken seriously. Women wanted the provider to listen and to make a determination if an examination was necessary. An officer was disappointed in her deployed GU health care recalled a story when she discussed her vaginal symptoms with an enlisted medic. After telling the medic her self-diagnosis, the medic treated without an examination. The officer stated, “Yeah that was my diagnosis. I guess I’m a doctor (with a sarcastic tone)”.

Even with a proper diagnosis, the health care provider admitted that he didn’t have the medication needed to treat. These shortcomings were expected, but the intolerable act was the provider not sanitizing his/her hands. The lack of a clean health care setting, the lack of basic equipment, and proper exam table impacted women’s trust in the health care provider ability to care for them. “I didn’t feel comfortable in their ability to actually perform their skill and I didn’t really feel comfortable because it wasn’t very sterile. The environment wasn’t [clean]”.

Frustrated with the deployed health care system, an officer recalled thinking, “I’m done....I’m not going to see another provider ever [in theater] again”. Another woman was angry because her symptoms were not taken seriously. She stated, “[My husband is angry because] I’m not being heard. That there’s nothing being done to resolve the issue. He feels like I have to completely get really bad in order for the issue to be taken seriously. And that scares

him”. One woman believed that it was important to “deal with it” and be strong and proactive to seek the care you need, even when others stop you. Women surmised their symptoms were not important to medical staff, because “you were there for something that wasn’t critical. I guess, and it wasn’t anything purposefully done. They were there saving people’s lives from IEDs (improvised explosive devices) and things”.

Women expected a better understanding of GU symptoms from female medics and were disillusioned when a female health care provider did not measure up to these expectations. Women expected female medics to order one year’s supply of oral contraceptives, support menstrual suppression, and be available to answer questions; however, this support did not always happen.

Medical personnel were not seen as a source of general health information, which fueled mistrust. Women complained the health care providers were not proactive about sharing health information or helping them prepare for deployment. Health briefings focused on preventing malaria and psychological health, nothing on preventing GU symptoms. Limited health information forced women to look elsewhere, such as the internet. If a provider chose not to treat the symptoms, little discussion was given to women why no treatment was prescribed. However, one woman explained her camp medic helped provide information by placing positive health messages on the bathroom walls.

Another source of mistrust was the assumption that when a woman complained about pelvic issues it was assumed she was sexually active. One woman stated, the “only thing they preach here is no sex. And ... you shouldn’t have lower area problems if you’re not having sex...so when you have like a lower area problem, you just call your family back at home or see what’s the best way to take care of it without going to the doctor”. A medic told a married

woman she had a sexually transmitted infection (without laboratory confirmation) and she had to adamantly convince the medic she was not engaged in sexual relations during deployment, which resulted in frustration toward the medical care received.

Trust in “chain of command” and the “system”

Many units required their junior enlisted personnel to “ask permission” to see a medical provider. For example, one woman stated, “You had to get your...supervisor, and then you had to go to the first sergeant who would sign the slip and then you had to tell ‘em. ...if it was girl problem.... You know, they don’t know how to handle it. They’re...very uncomfortable with it. But, yet they still want to know”. Another woman stated, that she just had to say “it’s a girlie problem” and supervisor was satisfied and would allow her to seek medical care without more detail. Though all women denied their leaders inhibited access to health care, even if it included a risky helicopter transportation or convoy trip. A onetime visit for a “woman’s issue” was typically approved, but if a health issue required frequent follow-up visits, then supervisors would begin to question the need for these repeated visits. Additionally, the leader’s gender was a factor to consider seeking care. Women were told to talk to a female supervisor in another unit since the topic was embarrassing to some supervisors.

Leaders had the final word for release to travel for specialized care due to the mission or even the safety for the travel. A junior enlisted soldier was not sent back home for further testing, even though the medical providers stated that she needed additional testing for recurring pelvic pain. The providers are limited to the resources they have in theater if women were forced to remain. Travel in theater was dangerous. “And I would have had to have left my FOB (forward operating base) by helicopter, gone to another FOB to get on a Rhino (type of transport) to get to the Green Zone, so that’s when...when I went to my Commander and said I needed to go to the

Green Zone to see a doctor and they were just like really, really, really, you need to go? I was a [named her position] and the only one there so for me to be gone a week it was kind of an issue. I could just kind of see that they really didn't want me to go. That's why they were like doing you really, really, not to go and I thought, okay, I'll just wait and I'll just go home on R&R...."

When women first arrived in theater, the best source of information about accessing the health care system or health information was from other women, including female supervisors. In fact, some supervisors were proactive in helping younger women. One supervisor stated that she talked to young women about "feminine wash, those types of things and pass on that knowledge [I] have". An NCO described the need to share information with women less experienced; "I was like ugh! 'Let me help you honey'. I always pass on those little tips 'cause, you know, I was lucky enough to deploy with two women that were kinda seasoned on my first deployment. They were like 'hey these are the things you need to survive'". Purchasing a female urinary diverter device (FUDD) made of a rigid plastic cup and tube allowed women in combat gear to urinate without taking off the women's pants and protective gear. While this NCO was very open about using a FUDD, other women reported they did not know about it.

Table 2
Dynamics of Trust

Domain	Supporting Quotes
Trust in Self	– "So I kind of floundered for a while and then finally I made another follow-up. I was like I really want to get to the bottom of this." – "Cause a lot of times you don't want to go, actually go to the doctor and be like hey, uh, this is having an odor, so you mostly try to care for yourself."
Trust in Others	– "... especially in Iraq, when a female goes to sick call, 'I betcha she's got an STD or she's pregnant'. I'm like maybe she just had a sinus infection."

- “So I would have to make sure that I really trust this person because that’s something that you don’t want people to know about. So I would, more than likely tend to go to an older female. Someone who is not involved in the gossiping and everything like that and ask her opinion.”
- “Especially female 1st sergeants. Yeah, I would feel a little bit more inclined to say, “Hey, can I ask you something personal?” And I would feel comfortable that they were maintain my privacy...I think it depends on the person too”.
- “. . . say somebody else did have a bladder infection or yeast infection and you needed something, somebody would be willing to give’em stuff.”
- “So if you have a female issue, you probably tell a battle buddy or you probably tell a male before you probably tell a female. It sound awkward, but you will probably go to, like me, If I had a problem, I probably go to a male NCO before I would go to a female NCO. Because they look at you kind of funny and yet they assume stuff. And me like I have an odor, they probably don’t, but you got some kind of disease, you’ve been having sex, why you smelling. That’s the only way you smell if you got sex, I know.”
- “There’s only a couple, to be honest that I wouldn’t, I wouldn’t go to. But I have, those are higher ups. Nothing against them! But it’s only 2. Maybe 2 or 3 that I would go to and I know they wouldn’t question me or think, “Oh, she’s just trying to get off work.” But there’s couple that may be like, “oh, you’ll be fine, and I won’t go to them. I’ll go to the ones that will take my concerns seriously.”
- “I know for me it was important because just having a friend/companion I guess, someone to talk to. Some issues you don’t want to talk to your supervisor about. You know you it would be kinda awkward.”

Trust in Family

- “We, mostly what you probably do is call one of your family members at home. Like “hey, this is going on, what should I do?”
- “My care packages were from my family, I guess, and that’s when I would get the stuff because I didn’t know I needed it until I got there. I wish I would have had it with me when I got there though because of how long it takes and sometimes your packages get lost and they do it on space available so it could take months.”
- “So, my mom, I mean she was in the Army, she was in the Women’s Army Corps, so she actually got her Women’s Army Corps Chapter, they sent us probably about 200 care packages while we were there”.

Trust in Health Care Providers

- “...but he told me there was nothing really we could do, this is kinda common for females to experience that in a deployed

location. So I just didn't seek help for it. I mean we're all having the same thing. They said there was nothing really they could do."

- "I hate see doctors. I mean it comes down to something's broken, something's torn, I bleeding, you know so I decided to go see a doctor. 'Cause I've gone to see a doctor before and they're like "ahh, nothing's wrong with you." I'm like. . . thanks (sarcastic). So, I try not to see a doctor."
- "I'm still not too big of a fan of the Army's sick call process."
- "we don't get appropriate care that we need."
- ". . . she (roommate) really wasn't comfortable going to the physician assistant (PA), but she couldn't go to the Women's Health Clinic without the referral from the PA. . ."
- "I'm not really a big fan of doctors rotating out so often, cause then they don't really know you as a patient."
- "He got concerned because, well, I had mentioned to him that I had an IUD and he was trying to do the exam. I get the impression that he didn't really know what he was doing. . . He kept asking the female [assistant] that was in there, like how to place to speculum and things like that."
- ". . . don't remember for sure whether or not the door locked, but I did have the feeling like anybody could walk in here at any time."

Trust in the System

- "So sometimes if the person is either too timid or the chain of command won't work with them. . . I mean it could go either way. They may not tell their supervisors, "I have this issue", until the point where it's so far it's such a huge problem. But it can be a huge problem for people too. . . for their chain of command to let them go to medical. I mean I think that's military wide because you have the "malingerers" and then you have the people who really are sick."
- ". . . our commander wanted to make sure that the women...could be prepared, [he would] inform us about sexual harassment and stuff. He wanted to make sure that the females of the company... were well informed about everything."
- "If I tell my boss, sir, I need to go to the doctor, I need to make an appointment, he's like okay. No questions. He doesn't ask me cause he understands. I mean he's not married but he has a significant other and he knows female issues so he's like I don't need to know. Go take care of your issues."
- "there weren't any females in leadership. We're in a male dominated career field."
- ". . . he had to like get leadership counseling cause he didn't know how to take charge of females. . . he wasn't a good leader."
- ". . . they had their favorites."

Sphere of Control

The Sphere of Control related to the military women's ability to control their deployed health (Table 3). Control over GU symptoms was important for optimal health so they could perform their job, stay engaged with the mission, but also believed it preserved their fertility.

Planning Ahead

Planning ahead gave women a sense of control by bringing supplies with them and stock up. Women recommended that it was best to plan for the unexpected when preparing for deployment. Women who did not plan for GU health needs either lacked deployment education or had no room left in the duffle bags to bring their own stuff. One woman was surprised that her menstruation cycled with her roommates and ran out of feminine supplies earlier than anticipated. A suggestion given by twice-deployed soldier was to either bring supplies with you or mail ahead to the unit before you arrive. Diaper rash cream was another item used to protect the sensitive skin from heat and sweat. It was anticipated that the medical facilities may not have the women's health services like at home and it is important to take care of health needs before deployment.

Women used the internet in their living quarters or at work to order supplies to have on hand, if needed. Using the government computers for personal use was prohibited. However, one woman reported that using the internet at work to purchase supplies was easier because of the faster connection and it freed her time to focus on the mission. She preferred this method as opposed to leaving work to walk to the PX that may not have the needed supplies. She stated, "[I] order it and then that way I know in five minutes I can get back to work". It was confirmed by several women that internet shopping gave them a sense of privacy that cannot be appreciated in the theater PX. Some of the items purchased on the internet were specific brand name hygiene

products, shampoos, soaps, feminine washes, and cranberry pills. No participant mentioned buying vaginal treatments using internet shopping.

Ways to Prevent

Proper hygiene in a dirty environment was paramount to preventing genitourinary symptoms. Women reported ways they prevented urinary symptoms by: urinating at every opportunity when on convoy; using a FUDD when needed to keep the bladder empty; staying hydrated; and changing their underwear often. In contrast, some women reported not knowing how to prevent urinary tract infections. An officer stated that she found it difficult to engage in illness prevention actions while deployed (i.e. drink fluids, keep clean, use of self-care treatments), while another officer believed that drinking too much bottled water created her kidney stones and decided to limit her water intake.

Bathing was an important topic and was dependent on the availability of water and maturity of the theater. Women would forgo a “hot shower” but wanted enough water for cleansing even if it meant a cold shower. In the absence of water, women used baby wipes or bottled water. In hot climates, one woman recommended, “keep your feet, your hands, keep your personal parts [clean] because you can get an infection quick if you don’t take care of yourself”. Not all women abided by the limited shower time to conserve water (known as a “combat shower”), one woman reported taking 10-15 minute shower to ensure her cleanliness, because she felt “as much as you sweat and all that throughout the day, and you’re working at least 12 hours a day and you’re only washing for 3 to 5 minutes...I have a problem with that”. A violation of the timed showers was seen as selfish by other women, seeing the violator as a “princess”, someone who thought she has special privileges.

Opinions were expressed about the products needed to keep the genital area clean and dry in the absence of menstruation. Many women used panty liners for urinary leakage or vaginal discharge, but some women found this daily exposure to these products exacerbated their vaginal symptoms or produced uncomfortable skin irritations and rash, which interfered with their ability to focus when on convoy missions. One woman chose not to wear panty liners, because, “I feel like I’m wearing a diaper”. One woman used toilet paper and pads next to her perineum to absorb the sweat from the genital area.

Menstrual Control

Menstruation management created unique problems in theater. Women who chose to suppress their menstruation believed, “having your cycle is just really gross”. As one woman stated, “...you’re with a bunch of guys and you’re out on a mission for like eight hours and I can pee in a bottle like this guy, but I can’t change a tampon”. Women were frustrated when they needed a year’s worth of oral contraceptives would not receive them because the pharmacy did not want to supply them, which was a great source of frustration. One woman stated that she was prohibited from receiving birth control pills to suppress her menstruation by the stateside military pharmacy and recommended that she use the mail order pharmacy to get her refills rather than giving her twelve months’ worth of pills. She replied, “I’m in Afghanistan... [and not] able to get mail reliably”. Other resources for obtaining a free year’s supply of oral contraceptives from other agencies than the military were used, such as Planned Parenthood. Other women reported not using pills, but other “forgettable” methods that “didn’t require that much upkeep”, such as, the intrauterine systems or injection.

Not all women chose to suppress their menstruation but found managing their hygiene to be a challenge. They were busy focusing on the mission. A junior enlisted woman stated, “[I can’t]

change [my pad] like if I'm back at home...Because if you're steady going, you can't really just say, 'hey, I need to go and change'". One woman chose to avoid tampon use because she believed tampons led to yeast infections. Finally, other women stopped their birth control method because they were away from their partners without regard to the positive benefit of cycle control.

Gathering Information

No other time in history has a military member in a warzone been able to privately gather health information using the internet. Ingenuity about lining in theater was imparted on them by other women or was learned by living in the environment from previous deployments. Ingenuity was a quality needed to control this unique environment by "learning how to work around the system". Women's ability to access supplies varied depending on the access to shopping facilities, delivery of mail, maturity of base/post and internet access. Women provided many suggestions for other women to learn about deployment and taking care of themselves. Women wanted information. An enlisted reservist stated there was no specific checklist for women's health care prior to her deployment; however, women in this study were informally told to prepare for deployment by bringing tons of tampons, baby wipes, and over the counter urinary symptom relief pills (brand named). For women with repeat deployments, learning that the PX carried more supplies influenced their decision to pack fewer supplies. Therefore, women wanted up-to-date information about the location they were deploying.

Table 3
Sphere of Control

Domain	Supporting Quotes
Planning Ahead	"...if you see something you might need in the future, you buy it then whether you need it or not".

- “Pack lightly, but pack smartly”.
- always bring your own personal stuff, JUST in case.”
- “Yeah and sometimes it’ll take a week or two week to get here, so you have to kind, of, as soon as you see that you only have like 20 or 30 (tampons) left, just in case, you have to order ahead because you don’t know if you’ll get through those and if the mail will be delivered on time.”
- I don’t like what they sold there at the PX. I’d order my favorites brands and just keep in them in my desk drawer. I ordered everything off [internet site named]”

Ways to Prevent

- “I wash daily with Summer’s Eve or the vaginal wash.”
- “I think if I stayed hydrated and kept my underwear clean”.
- “Bring a lot of panty liners so if you’re in a situation where you can’t change your underwear you can at least put one of those and keep it clean. Somewhat.”
- “I also have noticed very often when it comes to being a female and being aware of those types of products, there’s a tendency to run out more often than not. I just found it much easier just to order if I’m ordering some special shampoo or something like that from drugstore.com, I’ll just order the vaginal soap from there. It’s just as easy.”

Menstrual Control

- “I know that they have like those intrauterine devices. But those, I saw a commercial and it scared me when there was like, “Oh, it could puncture the wall or the uterine wall or it’ll affect your fertility.” Because my husband and I want to have children.”

Gathering Information

- “The only recommendation I have: educate; educate; educate. Because the more you educate I think the fear and maybe even the shame will kind of depress itself”
- “If this is your first deployment, most females talk to females who already have deployed. And they’ll tell you okay that is what you need to take.”
- “I don’t know maybe they can educate females a little bit more, especially the younger ones. . . females that are going over there that are 18, 19, 20. I remember being that age and I was very, very naïve. There are guys over there that can talk you into believing that door is blue (the door was brown). They’re quick talkers and maybe that unlucky person gets talked into something that they really don’t want to do.”
- “I think it would have been very helpful to have some type of preparedness to have some kind of medical briefing that physically goes down for a woman and actually gives that kind of information . . . some type of program or maybe a briefing setup for women

when they're deploying to maybe go through their women's health clinic and talk about issues would be great."

Relationship of current findings to previous findings: This study explored the symptom management of military women in a deployed setting in the context of the deployed military culture. An important factor to consider in this study was the fact that women were recalling stories from a stressful environment that was far from their home and, for some women, during war. Their usual coping mechanisms for symptom management were altered from their home setting. Some women reported an increased in frequency of their symptoms. The appraisal of symptoms was heightened due the frequency, intensity (Goodman, Herman, Murgauh, Moneyham, & Phillips, 2007) and co-existing life stressors (Cameron, Leventhal, & Leventhal, 1995). It is also plausible, that living in this stressful environment precipitated their symptoms, or was linked to a greater risk for bacterial vaginosis prevalence and incidence (Nansel, et al, 2006) and other GU symptoms (Lowe & Ryan-Wenger, 2003). Without proper anticipation through pre-deployment education, women felt unprepared to manage their symptoms in this strange environment.

Common beliefs about the source of GU problems were shared by women with common cultural factors (Karasz & Anderson, 2003), such as the deployed culture. Women expressed many environmental reasons for their GU symptoms, but the most common issue raised was sexual activity. Women and medics often related vaginal symptoms to sexual activity. Further, this belief deterred women from seeking health care when it was needed because others would perceive they were sexually active. For women who were sexually active, it was socially riskier

to be recognized buying or picking up condoms than jeopardizing their health through unsafe sexual practices.

Researchers have reported that between 15% (Nielson, et al, 2009) to 44% (Thomson & Nielson, 2006) of military women felt they did not have adequate access to the gynecologic care they needed, depending on their deployed location. Women in this study supported this finding. Women reported an inadequate access to medical care that was impacted by the cultural influence of the deployed setting. It was apparent there were many factors that influenced the decision to seek medical care. As confirmed by other reports, women stated they believed that medics had limited supplies to diagnose and treat their ailments (Wilson, 2011). Military women felt unsupported by the medical personnel. There appeared to be a disconnect between the women's expectations of GU symptom management and the medic's willingness to understand the psychosocial impact of these symptoms (Karasz & Anderson, 2003). Women in this study lacked confidence in their health care provider, were embarrassed, and believed there was a lack of confidentiality, as reported in earlier studies (Ryan-Wenger & Lowe, 2000).

Predeployment information was not adequate. Women in this study requested additional predeployment training relevant to their sex-specific health needs. Women wanted health information on self-treatment options and menstrual suppression. This continued need for predeployment counseling to prepare women was supported by studies (Nielson, et al, 2009; Trego, 2007). By providing tailored health education, women can trust their decisions to maintain their health in this strange and stressful setting.

The family support of the female military member was paramount. Families were particularly important when the military women were having private, and possibly stigmatizing, GU symptoms. The medical, psychological, and social literature was replete with articles about

the family support of a military member from a mental health perspective. However, no literature was found that described the importance of family connection in the support of preventive health or self-care treatments through providing health information or self-treatment remedies, especially related to GU health. This finding is important to explore to help families support their deployed loved ones.

Effect of problems or obstacles on the results: The delay in the execution of the study shifted the timeline. After the grant award, the PI was transferred to 59 MDW, Lackland, AFB, TX. This move required the PI to develop new support for the study from the community to advertise the study. Another unanticipated delay was the IRB ruling that this study was determined to be a Greater than Minimal Risk (GMR) study. The IRB was concerned that women may report to the investigator she was a victim of a sexual assault. Luckily, this fear of the IRB was not experienced in the study. However, because the study was GMR, it required second level review, which added months to the approval process.

The only real possible obstacle on the results was the deployment during the data collection phase. However, this deployment added to the richness of the study results because the PI was able to experience the culture and maintain field notes about this culture, as a good ethnographer should.

Limitations: A key limitation to the study was the small number of Navy women who took part in the study. Further, no Marine women took part in the study. These limitations were due to the PIs location that served few Navy or Marine women. Because the Marines population contains only 5% women, it is a population that has to be specifically targeted at a Marine location. Though it was the intention of the PI to gain an Army, Navy, Air Force, and Marine perspective, it was difficult due to these limitations. However, it was believed that the experiences women

described in their joint deployed locations as well as ship locations, these results can be transferred to women in other services.

Another limitation of the study was the deployment of the PI during the data collection phase of the study. Therefore, 13 of the interviews were collected during deployment. What was an interesting observation was the description the social interactions with others about their symptoms. The PI noted that women who were deployed at the time of the interview appeared to minimize their symptoms and not bother others (i.e. leadership, medical personnel) as compared to women who were recalling their symptoms from their CONUS assignment. It was possible that women who have had time to reflect on their experiences will have tainted this recall with negative emotion. However, there was not enough variation in the description in the management of the symptoms to call it out in the overall findings.

Conclusion: The specific aims were met for this study with interesting findings. The PI was particularly intrigued by the Trust in Self and Trust in Family subthemes as a facet of the cultural impact of illness behaviors. Another interesting finding was the lack of trust for health care providers in the deployed setting. It is without a doubt, pre-exposure to the deployed setting through briefings that are specific to availability of supplies, medical specialties, and toileting facilities will improve the ability to control their symptoms in the context of this environment. Though, our nation has been at war for greater than ten years, it was interesting to note that women continued to raise the same gynecologic health concerns that have been discussed repeatedly in the literature since women have been allowed to serve their nation in the military. This study confirmed that the participants desired education and gender specific deployed health care that is supported by research to advance the health of women to meet the military objective (Trego, Wilson, & Steele, 2010).

Significance of Study or Project Results to Military Nursing

This project is significant to military nursing in several ways. Women will continue to deploy to austere environments. These environments pose a potential risk for GU health of women due to the climate, unclean setting, limited bathing, or restrictive clothing and gear. It is incumbent on military nurses to be available prior to deployments to prepare women for the rugged settings. Nurses have to educate women on how to prevent or manage symptoms while in the context of the setting.

Women in this study repeatedly recommended more training to prepare them for deployment. The PI is currently considering several options to conduct an intervention study to prepare women for these settings. The PI is aware of gynecologic intervention studies being conducted by her colleagues (Ryan-Wenger, Trego and Steele). Trego and Steele are collaborating with the TSNRP Women's Health Research Interest Group and this collaboration will thrust nursing research forward in education military women about GU health by continuing to develop intervention studies.

Currently, the PI is conducting a qualitative study interviewing enlisted medics (Navy Independent Duty Corpsmen, Air Force Independent Duty Medical Technician, and Army Combat Medics) to gather their perspective of caring for women in the deployed setting. The study findings along with women's study findings can inform medic training in their basic medic education, on-going training, and pre-deployment training. The combination of these study findings inform military nursing as a leadership opportunity to educate women and the first line medics about caring for women in austere settings. This extension of health care providers will help to be proactive in deployment education for women to increase their health literacy.

Changes in Clinical Practice, Leadership, Management, Education, Policy, and/or Military Doctrine that Resulted from Study or Project

This study was presented at the Air Force Medical Symposium, August 2011. There were approximately 50 Air Force leaders present in the audience. Further, this study was presented at the Karen Reider Federal Nursing Poster session at AMSUS. There were over 100 nurses present as well as the Corps Chief Nurses for the Air Force and Navy, as well as the Deputy Corps Chief Nurse for the Army. The findings from this study also informed the TSNRP Women's Health Research Interest Group to generate new research questions. The research findings have been submitted to the Air Force Corps Chief's quarterly newsletter.

The findings from this study have informed the follow-on study currently on going, "Military Medics Insight into Caring for Military Women" (N10-P03). Medics confirm the reports made by women about their care while deployed. It is planned by the research team to make recommendations to the education of first line medics based with these two reports.

Finally, the PI was invited to represent military women's health needs at an Air Education and Training Command (AETC) research steering committee. This committee made recommendations to the Air Force Surgeon General about the direction of future AF research. The PI reported these findings to the committee in which will generate other funded studies for the Air Force.

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Summary of Dissemination		
Type of Dissemination	Citation	Date and Source of Approval for Public Release
Publications in Press	Wilson, C & Nelson, P. (2012). Exploring the Patterns, Practices and Experiences of Military Women Who Managed Genitourinary 7 Symptoms in Deployed Settings. <u>JOGNN</u> , (In Press). The anticipated date of publication is the March/April edition 2012.	20111128 59 MDW PAO.
Podium Presentations	Wilson, C. "Let me tell you sister: Seeking women's health care in deployed settings" Air Force Medical Symposium. Washington DC. Aug 2012. Air Force. Wilson, C. "Let me tell you sister: Seeking women's health care in deployed settings". Qualitative Health Institute. Vancouver, BC, Canada. Oct 2011. University of Alberta.	20110729 59 MDW PAO 20110729 59 MDW PAO
Poster Presentations	Wilson, C. "Let me tell you sister: Seeking women's health care in deployed settings". TriService nursing breakout session of the American Academy of Ambulatory Care Nursing (AAACN). May 2011. San Antonio, TX. Wilson, C. "Let me tell you sister: Seeking women's health care in deployed settings". 59 MDW Second Annual Nursing Research Day. Jan 2012. San Antonio, TX.	

Reportable Outcomes	
Reportable Outcome	Detailed Description
Applied for Patent	None
Issued a Patent	None
Developed a cell line	None
Developed a tissue or serum repository	None
Developed a data registry	None

Recruitment and Retention Table

Recruitment and Retention Aspect	Number
Subjects Projected in Grant Application	40-60
Subjects Available	unknown
Subjects Contacted or Reached by Approved Recruitment Method	44
Subjects Screened	44
Subjects Ineligible	0
Subjects Refused	0
Human Subjects Consented	44
Subjects Who Withdrew*	1
Subjects Who Completed Study	43
Subjects With Complete Data	39
Subjects with Incomplete Data**	4

*The interview just started when the clinic staff called the subject. She did not want her data used.

**Just minor demographic data missing. Otherwise, the interviews are complete.

Demographic Characteristics of the Sample

Characteristic	
Age (yrs $\pm$ SD)	30 $\pm$ 6.3
Women, n (%)	43(100)
Race	
White, n (%)	19(44)
Black, n (%)	14(32)
Hispanic or Latino, n (%)	5(12)
Other, n (%)	5(12)
Military Service or Civilian	
Air Force, n (%)	20(47)
Army, n (%)	19(44)
Navy, n (%)	4(9)
Other	
Number of Children, M (Range)	1 (0-5)
Number of deployments, M (Range)	2 (1-5)
Marital Status	
Never Married, n (%)	9 (21)
Significant other, n (%)	2 (5)
Married, n (%)	25(58)
Divorced, n (%)	5(12)
Widowed, n (%)	1(2)
Missing, n (%)	1(2)
Currently deployed, n (%)	13(30)
Length of deployment referenced if not currently deployed, months (SD)	9 (6.5)
Number of GU symptoms while deployed M, (SD)	1 (1.5)
Birth Control method used while deployed	
Pills, n (%)	19 (44)
Injection, n (%)	1 (2)
Intrauterine Device, n(%)	5 (12)
Condom, n(%)	1 (2)
Implant, n(%)	2 (5)
Nothing, n(%)	12 (28)
Missing, n(%)	3 (7)